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Maintenance

**F-16 FUNCTIONAL/OPERATIONAL
CHECK FLIGHT**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(MSgt Randall L. Chamberlain)
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This instruction establishes procedures for accomplishing functional/operational check flights (FCF)(OCF) in the 419th Fighter Wing. It implements FCF procedures as specified in AFI 21-101, *Aerospace Equipment Maintenance Management*; AFI 11-401 AFRC Sup 1, *Flight Management*; AFI 13-201, *Air Force Airspace Management*; Technical Orders (T.O.) 00-20-5, *Aircraft, Drone, Aircrew Training Devices, Engines, and Air-Launched Missile Inspection, Flight Reports, and Supporting Maintenance Documents*; T.O. 1-1-300, *Acceptance Functional Check Flights and Maintenance Operational Checks*; T.O. 1F-16C-6-11, *Scheduled Inspection and Maintenance Requirements Using F110-GE-100 Engine F-16C/D*; T.O. 1F-16C-6CF-1, *Acceptance and Functional Check Flight Procedures Manual USAF Series Aircraft F-16C/D*; T.O. 1F-16C-CL-1, *Checklist-Acceptance and Functional Check Flight F-16 C/D Blocks, 25, 30, and 32* and is applicable to all aircraft maintenance personnel assigned to the 419th Fighter Wing and FCF crews assigned to the 466th Fighter Squadron (FS).

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

1. Responsibilities:

1.1. Fighter squadron operations officer or senior FCF qualified air reserve technician (ART):

1.1.1. Manages the flying portion of the FCF Program.

1.1.2. Supervises FCF Pilot Training.

1.1.2.1. Initial qualification includes:

1.1.2.1.1. Ground training as prescribed by 419th Fighter Wing Pilot FCF Checkout Program Worksheet ([Attachment 1](#)).

1.1.2.1.2. Flying training as required for individual pilots.

- 1.1.2.1.3. Documentation of Fighter Squadron (FS) training folders.
- 1.1.3. Completion of initial qualification training is documented by a letter of aircrew certification.
- 1.1.4. Gives FCF pilots a closed book examination annually. This test includes material pertaining to FCFs covered in applicable regulations and T.O.s.
- 1.1.5. Authorizes continuation training as considered necessary to maintain proficiency.
 - 1.1.5.1. As a minimum, every 180 days FCF pilots will update currency by performing an FCF profile either in-flight or in the Multi-Task Trainer (MTT)/simulator.
- 1.1.6. Notifies quality assurance (QA) of FCF pilot qualification by letter, signed by operations group commander (OG/CC).
- 1.1.7. Insures AFORMS products track and identify FCF currency and annual test requirements.
- 1.2. FCF Pilots:
 - 1.2.1. Knowledgeable of and comply with the requirements of this regulation.
 - 1.2.2. Accomplish initial qualification training.
 - 1.2.3. Satisfactorily completes a closed book FCF examination annually.
- 1.3. Debrief Dispatch Section (DDS):
 - 1.3.1. Notifies QA of the anticipated FCF.
 - 1.3.2. Notifies QA when aircraft is ready for FCF.
 - 1.3.3. Coordinates the availability of qualified FCF crews with QA and the FS.
 - 1.3.4. Notifies QA of FCF take off time.
 - 1.3.5. Notifies QA upon return of FCF aircrew for debriefing.
- 1.4. Fighter Squadron Maintenance (FSM):
 - 1.4.1. Retains all AFTO Forms 781A, **Maintenance Discrepancy and Work Document**, FCF aborts and FCFs flown but not released in aircraft AFTO Forms 781 binder for QA and the FCF pilot to review prior to flight.
 - 1.4.2. Notifies DDS when the aircraft is ready for FCF.
 - 1.4.3. Ensures a crew chief delivers the aircraft AFTO Forms 781 binder to QA no later than two hours prior to anticipated FCF takeoff time and assists QA during AFTO Form 781 binder review.
- 1.5. Quality Assurance (QA):
 - 1.5.1. Reviews the aircraft AFTO Forms 781 binder in the presence of the crew chief. Flags the AFTO Forms 781A's by writing in large red letters "FCF" at the top of the first page.
 - 1.5.2. Makes entries in the aircraft forms pertaining to the FCF and initiate a FCF checklist.
 - 1.5.3. Retains the aircraft AFTO Forms 781 binder and checklist in QA and delivers them to the pilot at the time of the FCF briefing.

1.5.4. When aircraft returns from the FCF, meets the pilot in debrief for a simultaneous maintenance, FCF debriefing.

1.6. Weather Requirements. In addition to the requirements of T.O. 1-1-300, any engine related FCF must have at least 8000' broken as the most recent observation prior to takeoff, and be sufficient to comfortably perform a flameout pattern.

1.7. Mandatory FCF requirements are prescribed by T.O. 1-1-300, T.O. 1F-16C-6-11, as specified upon completion of time compliance technical orders (TCTOs), and when directed by the logistics group commander LG/CC or OG/CC.

1.8. Additional FCF Requirements. The OG, LG, or FSM depending on the situation and aircraft history can request FCF's.

1.8.1. FCFs will be accomplished on aircraft when any of the following conditions exist:

1.8.1.1. 45 days or more of downtime.

1.8.1.2. 30 days of downtime resulting from other than normal scheduled maintenance.

1.8.1.3. A repeat/recurring write up for engine, hydraulic, flight control, landing gear, electrical or airframe system.

1.8.1.4. When an in-flight operational check is required.

1.8.1.5. Unexplained or uncommanded flight control anomalies.

1.8.1.6. FCFs for the above conditions may be waived by the OG/CC, in conference with the LG/CC, based on the specific circumstances or aircraft history that indicate an FCF is unwarranted.

2. FCF Procedures. FCFs will be coordinated through the FSM and LG to establish requirements and scheduling. FS Operations will be notified of the crew ready time. FS operations will schedule a departure window with SLC TRACON and range space; then pass the desired takeoff time to FSM. When FCFs are accomplished to test specific equipment or systems, only applicable portions of the full FCF profile need to be accomplished. However, as much of the full profile should be accomplished on all FCFs as configuration, weather or other factors permit.

2.1. Configurations. FCF configurations are based on the extent of maneuvering required to complete the desired checks/portions of the full FCF profile. The required FCF profile is determined by the maintenance requirement that prompted the FCF. The FCF pilot ensures that requirements of the FCF profile are compatible with aircraft stores limitations, carriage limits, angle of attack (AOA), rolling limits, and aircraft configurations. Additionally the following guidance will apply (exceptions to the following configuration requirements must be approved by the LG/CC or OG/CC).

2.1.1. Do not carry external stores, triple ejection racks (TERs) or LAU-117 launchers.

2.1.2. For engine related FCFs the configuration will be clean or with symmetric missile launchers on stations 1, 2, 8, 9, and/or with a center line weapons pylon or electronic countermeasures (ECM) adapter on station 5.

2.1.3. By exception only, FCFs for engine related discrepancies may be flown with an empty centerline 300 gallon tank and/or symmetric wing pylons.

2.1.4. Aircraft directed to fly a FCF for air refueling/fuel transfer related problems are flown with the same tank configuration in which the discrepancy was encountered. Any external stores are downloaded, except for wing weapons pylons and centerline pylon. If a FCF is required with all three external tanks, the FCF pilot remains within category III AOA and rolling limits and tailors the FCF profile accordingly.

2.2. During deployed operations, FCFs are conducted under the same constraints used at home station.

3. Operational Check Flight (OCF) Procedures .

3.1. OCF will be accomplished as prescribed by AFI21-101 and follow the same maintenance criteria contained in this instruction.

3.1.1. OCF can be flown by FCF qualified or experienced aircrew designated by OG/CC.

F.C. WILLIAMS, Brigadier General, USAFR
Commander

Attachment 1

419TH FIGHTER WING FCF PILOT CHECKOUT PROGRAM WORKSHEET

419 th Fighter Wing FCF PILOT CHECKOUT PROGRAM WORKSHEET		
NAME:	Date:	
READ THE FOLLOWING:	Initials	Date
1. AFI 11-401 AFRC Sup 1, Attachment 6 and 419 Form 6, 466FS AFORMS TRAINING INPUT FORM , For Supersonic Reporting		
2. AFI 21-101, <i>Aerospace Equipment Maintenance Management</i> CHAPTER 12, Para 12.20 thru 12.22.2.		
3. AFI 13-201, <i>Air Force Airspace Management</i> , Para 2.11. Supersonic Operations		
4. T.O. 00-20-5, Chapter 3, Documentation of Functional Check Flights Para 3-5.2 and Conditional/Exceptional Release Para 3-18.5.7.3		
5. T.O. 1-1-300, <i>Acceptance/Functional Check Flights and Maintenance Operational Checks</i>		
6. T.O. 1F-16C-6CF-1, <i>Acceptance and Functional Check Flight Procedures Manual</i>		
7. T.O. 1F-16C-6CL-1, <i>Acceptance and Functional Check Flight Checklist</i>		
8. T.O. 1F-16C-6-11 SECTION II - PART C, <i>Conditions requiring FCF</i>		
9. 419 FWI 21-109, <i>F-16 Functional Check Flight</i>		
10. AFTO Form 781G, General Mission Classifications		
11. ZOOM DEPARTURE ZCL-400-B-1 ATTACHMENT 3		
12. ZOOM DEPARTURE REVISION 2, 1/03/91		
ACCOMPLISH THE FOLLOWING:		
13. Briefing by FCF Officer (FCF Procedures).		
14. Simulator Sortie (if available).		
15. Back Seat "D" Model Flight (FCF Profile). NOTE: Flight may be accomplished in Two "C" models if no "D" model is available.		
16. Annual FCF Pilot Exam (Given by FCF Officer).		
17. Certification letter signed by operations group Commander.		
The FCF Checkout Program may be modified at the discretion of the 466FS/CC or designated FCF officer to facilitate upgrade training.		